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EXAMINER

PARSONS, THOMAS H

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,770

Applicant(s)

SCHMIDT ET AL.

Examiner

Thomas H Parsons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-14,16-21 and 23-30 is/are rejected.
- 7) ☒ Claim(s) 3-7,15 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 1, line 2, suggest changing "US 4,505,997" to --U.S. Patent No. 4,505,997--; and, suggest changing "US 5,273,840" to --U.S. Patent No. 5,273,840--.

Appropriate correction is required.

Claim Objections

2. Claim 7, 16, 27, and 27 are objected to because of the following informalities:

Claim 7 (original), line 4, suggest changing "each of which same to --each of which is the same;

Claim 16 (amended), line 5, suggest changing "siolane" to --siloxane--;

Claim 21, line 3, after "formula (I)", suggest inserting --according to claim 1--; and,

Claim 27 (amended), line 2, suggest inserting "or" after "claim 1".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 10-13, 15, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 (amended), lines 6-8, It is unclear as to what is meant by “according to usual methods”. Claims 11-13 are rejected as being dependent upon rejected claim 10.

Claim 15 (original), lines 4-5, It is unclear as to what is meant by “each time relative to the sum...”.

Claim 23 provides for the use of tetrakisfluoroalkylborate, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 8-9, 14, 16-21, 24-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Sonoda et al. (US 20020028389) as further evidenced by Wuttke (3,884,723) and Shiue et al. (6,500,575).

Claim 1: Sonoda et al. on page 3, paragraphs [0029]-[0030], and page 5, paragraphs [0063]-[0065] disclose tetrakisfluoroalkylborate salts of general formula (I)

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$M^{n+}([BR]^{4-})_n$ (I) wherein M^{n+} is a univalent, bivalent, or trivalent cation, each of the ligands R are the same and straight-chained or branched, representing $(CF_2)_{x+1}$, with $1 \leq x \leq 8$, and $n=1, 2$ or 3 .

Claim 2: Sonoda et al. on page 3, paragraph [0029] further disclose that the M^{n+} cation is an alkali metal cation, preferably a lithium, sodium or potassium cation, and more preferably a lithium cation.

Claim 8: Sonoda et al. on page 3, paragraph [0030] further disclose that each of the ligands R are the same, representing $(CF_2)_{x+1}$, with $x=1$ or 2 .

Claim 9: Sonoda et al. on page 3, paragraph [0030] further disclose that each of the ligands R are the same, representing a CF_3 residue. The examiner has interpreted the claim to mean that when $x=1$, $(CF_2)_{x+1}$ becomes CF_3 .

Claims 14, 16, and 17: Sonoda et al. page 3, paragraphs [0029]-[0030], and page 5, paragraphs [0063]-[0065] disclose mixture, including a) at least one tetrakisfluoroalkylborate salt of general formula (I) according to claim 1 above, and b) at least one polymer (page 3, paragraph [0037], characterized in that component b) is a homopolymer or copolymer cyclic ethers, preferably tetrahydrofuran (page 3, paragraph [0037], line 14), characterized in that component b) is a homopolymer or copolymer of tetrahydrofuran (page 3, paragraph [0037], line 14).

Claim 18: Sonoda et al. on page 3, paragraph [0037], line 14 disclose that same polymer as instantly disclosed which anticipates a least partially crosslinked polymer.

Claims 19-20: Sonoda et al. on page 3, paragraph [0037], lines 1-7 disclose a mixture according to claim 14, characterized in that the mixture additionally includes at least one solvent, characterized in that organic carbonates, preferably ethylene carbonate, propylene carbonate,

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butylene carbonate, dimethyl carbonate, diethyl carbonate, ethyl methyl carbonate, organic esters, preferably methyl formate, methyl acetate, organic ethers, preferably diethyl ether, dimethoxyethane, sulfur-containing solvents, preferably dimethylsulfoxide, or mixtures of at least two of these solvents.

Claim 21: Sonoda et al. disclose on page 1, paragraph [0002] a method of producing a mixture according to claim 14, characterized in that at least one tetrakisfluoroalkylborate salt of general formula (I) and at least one polymer and optionally at least one solvent are Mixed (See also page 6, Example 1).

Claims 24 and 25: Sonoda et al. on page 3, paragraphs [0029]-[0030] disclose electrolytes, including at least one tetrakisfluoroalkylborate of general formula (I) according to claim 1 with at least one polymer (page 3, paragraph [0037], characterized in that the concentration of the tetrakisfluoroalkylborate salts(s) in the electrolyte is from 0.01 to 3 mol/l, preferably from 0.01 to 2 mol/l, and more preferably from 0.1 to 1.5 mol/l (page 3, paragraph [0038])).

Claim 26: Sonoda et al. disclose on page 3, paragraph [0027] primary batteries, including at least one tetrakisfluoroalkylborate of general formula (I) according to claim 1 with at least one polymer.

Claim 27: Sonoda et al. on page 3, paragraph [0027] disclose secondary batteries, including at least one tetrakisfluoroalkylborate of general formula (I) according to claim 1 with at least one polymer.

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Claim 28: Sonoda et al. disclose on page 2, paragraph [0015] disclose capacitors, including at least one tetrakisfluoroalkylborate of general formula (I) according to claim 1 with at least one polymer.

Claim 29: Sonoda et al. on page 2, paragraph [0015] disclose supercapacitors (electric double layer capacitors), including at least one tetrakisfluoroalkylborate of general formula (I) according to claim 1 with at least one polymer.

Shiue et al. is cited to show that supercapacitors are defined as electric double layer capacitors (col. 6: 3-33).

Sonoda et al. on page 2, paragraph [0015] disclose galvanic cells (nonaqueous electrolyte battery), including at least one tetrakisfluoroalkylborate of general formula (I) according to claim 1 with at least one polymer. 20.

Wuttke is cited to disclose that galvanic cells are nonaqueous electrolyte batteries (abs.; col. 4: 40-41; and col. 5: 57-col. 6: 2).

Allowable Subject Matter

7. Claims 3-7, 15 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H Parsons whose telephone number is (703) 306-9072. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Thomas H Parsons
Examiner
Art Unit 1745


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700